

THE MUTILLIDAE OF CUBA (HYM.).¹

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Mutillidæ from Cuba are apparently very rare in collections. The largest collection, on which notes have been published, comprises the material belonging to this family in the Gundlach collection of Hymenoptera. The total number of specimens of Mutillidæ in that collection was nine, representing five species and three genera. The specimens were recorded and described by Cresson (1865), and at that time included all the species known from Cuba. Two additional species from Cuba have been described since by Blake (1871) and Mickel (1926).

Dr. George Salt succeeded in collecting a number of Mutillidæ in 1925 in the vicinity of the Harvard Biological Station at Soledad, Cuba. His collection includes the greatest number of specimens from the island of Cuba which has so far been made available for study. Dr. Salt very courteously offered me the opportunity of examining and studying this material for which I take this occasion to express my sincere appreciation.

There are thirty-five specimens in the Mutillid material collected by Dr. Salt, representing six species and four genera. The genus *Pseudomethoca* which was heretofore unknown from Cuba is represented in the material by a new species. The identity of *senex* Guérin and *palliceps* Cresson as two sexes of the same species which had been suggested by André (1898) is verified by Dr. Salt's collecting. Two new species of the genus *Ephuta* were also found in the material. In addition to the records and descriptions of the species in the Salt collection, I have included complete synonymical notes on all the species known from Cuba. I have appended also a list of the Mutillidæ known to occur in the West Indies exclusive of Cuba, in order to make readily accessible in one paper a complete catalogue of the Mutillid fauna of the West Indian Islands. None of the species known from Cuba have been recorded from the other islands.

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Genus **Pseudomethoca** Ashmead.1. **Pseudomethoca salti** n. sp.

Female. Head broader than the thorax, pale ferruginous, densely clothed with appressed, brilliant ochraceous pubescence; thorax blackish; abdomen ferruginous; pygidium granulate. Length, 8 mm.

Head pale ferruginous, densely clothed throughout with appressed, brilliant ochraceous pubescence; mandibles ferruginous, black at the tips, edentate; anterior margin of the clypeus with a prominent tooth each side at a point about one-fourth the width of the clypeus from the base of the mandibles; medio-anterior area of clypeus glabrous, impunctate; antennal tubercles separated by about half the length of the scape; scape ferruginous, glabrous, indistinctly punctate, with scattering, long, erect, pale hairs; first segment of flagellum longer than the second, but not as long as two and three united; antennal scrobes distinctly carinate above; puncturation of front and vertex obscured by the pubescence; genæ closely, distinctly punctate, the pubescence sparse; posterior margin of the genæ prominently carinate, the carina extending to the postero-lateral angles; relative widths of head and thorax, 6—5.2.

Thorax hexagonal, strongly constricted behind the middle, very dark mahogany red, almost black, clothed above with sparse, inconspicuous, dark pubescence; dorsum of thorax densely and deeply punctate; scutellar scale absent; propleura closely punctate, a carina extending ventrally from the humeral angles; mesopleura, metapleura and sides of propodeum glabrous, impunctate; anterior half of mesopleura with sparse, fine, pale pubescence; upper part of posterior face of propodeum coarsely punctato-reticulate, the ventral half with large, close punctures.

Abdomen ferruginous; first segment completely sessile with the second; disk of first tergite with intermixed large and fine punctures, the posterior third with large, deep, dense punctures; posterior margin of first tergite with a fringe of dark ferruginous pubescence; second tergite ferruginous, the areas at the basal lateral angles very dark ferruginous, almost black; basal two-

thirds of second tergite densely and deeply rugoso-reticulate, apical third with dense, moderate punctures; sides and disk of second tergite clothed with sparse, pale pubescence; apical third of second tergite, except at the sides, clothed with sparse, long, black pubescence; tergites 3-5 densely, finely punctured, clothed with dense, appressed, brilliant ochraceous pubescence; a very small, inconspicuous spot of black pubescence medially on the apical margins of tergites 3 and 4; ultimate tergite with brilliant ochraceous pubescence basally; pygidial area distinct and granulated; first sternite with a median, longitudinal carina; second sternite with large, distinct punctures throughout; apical margins of sternites 3-6 densely punctured; all the sternites clothed with very sparse, pale pubescence.

Legs ferruginous, sparsely clothed with pale pubescence; calcaria pale.

Holotype: ♀, Soledad, Cuba, February 9, 1925 (George Salt), in collection of Museum of Comparative Zoölogy, Cambridge, Mass.

This species appears to be somewhat similar to *flaviceps* André described from Haiti but differs in the thorax being dark throughout, the absence of pubescent spots on the pleura, the ferruginous abdomen, first abdominal tergite without a median spot of silvery pubescence on the posterior margin, second abdominal tergite without three dark red spots, and in other minor characters. I am pleased to name this species for Dr. George Salt, through whose kindness I have been able to study this collection of Cuban Mutillids.

Genus *Dasymutilla* Ashmead.

2. *Dasymutilla nigriceps* (Cresson).

1865. *Mutilla nigriceps* Cresson, Proc. Ent. Soc. Phila., 4: 110, ♀.

1871. *Mutilla* (*Sphærophthalma*) *nigriceps* Blake, Trans. Amer. Ent. Soc., 3: 245, ♀.

1886. *Sphærophthalma nigriceps* Blake, Trans. Amer. Ent. Soc., 13: 238, ♀.

1897. *Mutilla florentinii* Dalle Torre, Cat. Hymen., 8: 40, ♀.

1898. *Mutilla (Ephuta) nigriceps* André, Ann. soc. ent. France, **67**: 53, ♀.

1900. *Mutilla nigriceps* Fox, Ent. News, **11**: 401, ♀.

1903. *Ephuta (Ephuta) nigriceps* André, Gen. Ins., **1** (fasc. 1): 62, ♀.

Type: ♀, Cuba, in collection of American Entomological Society of Philadelphia.

Specimens examined:

♀, Soledad, Cuba, February 22, 1925 (J. G. M.); ♀, Soledad, Cuba, March 18, 1925 (George Salt); ♀, Soledad, Cuba, April 1, 1925 (George Salt); ♀, Soledad, Cuba, May 28, 1925 (George Salt); ♀, Soledad, Cuba, June 9, 1925 (George Salt); ♀, Soledad, Cuba, December 3, 1927 (J. W. Wilson); ♀, Soledad, Cuba, December 6, 1927 (W. S. Creighton).

3. *Dasymutilla wilsoni* (Cresson).

1865. *Mutilla Wilsoni* Cresson, Proc. Ent. Soc. Phila., **4**: 112, ♂.

1871. *Mutilla (Sphærophthalma) Wilsoni* Blake, Trans. Amer. Ent. Soc., **3**: 240, ♂.

1886. *Sphærophthalma Wilsoni* Blake, Trans. Amer. Ent. Soc., **13**: 232, ♂.

1897. *Mutilla wilsonii* Dalle Torre, Cat. Hymen., **8**: 98, ♂.

1900. *Mutilla Wilsoni* Fox, Ent. News, **11**: 401, ♂.

1903. *Ephuta (Ephuta) Wilsoni* André, Gen. Ins., **1** (Fasc. 11): 65, ♂.

Type: ♂, Cuba, in collection of American Entomological Society of Philadelphia.

Specimens examined:

♂, Soledad, Cuba, February 16, 1925 (J. G. Myers); ♂, Soledad, Cienfuegos, Cuba, Jan.-Feb., 1927 (C. T. and B. B. Brues).

This may possibly be the male of *nigriceps* Cresson.

4. *Dasymutilla insulana* Mickel

1926. *Dasymutilla insulana* Mickel, Ent. Mitt., **15**: 197, ♀.

Type: ♀, Guantanamo, Cuba, in Deutsches Entomologisches Institut, Berlin-Dahlem, Germany.

Specimens examined:

Two females from Guantanamo, Cuba, in addition to the type.

Superficially this species resembles *nigriceps* Cresson, but is very different as pointed out in the original description. It is probably more nearly related to *bouvieri* André described from San Domingo.

Genus *Timulla* Ashmead.5. *Timulla senex* (Guérin).

1844. *Mutilla senex* Guérin, Iconogr. regn. anim., **7**: 429, Pl. 69, fig. 4, ♂.

1857. *Mutilla senex* Lucas, Ramon: Hist. fis. Cuba, **7**: 758.

1865. *Mutilla senex* Cresson, Proc. Ent. Soc. Phila., **4**: 110, ♂.

1865. *Mutilla palliceps* Cresson, Proc. Ent. Soc. Phila., **4**: 112, ♀.

1871. *Mutilla senex* Blake, Trans. Amer. Ent. Soc., **3**: 230, ♂.

1871. *Mutilla palliceps* Blake, Trans. Amer. Ent. Soc., **3**: 230, ♀.

1879. *Mutilla senex* Girard, Traité elem. d'entom., **2**: 994, Pl. 75, fig. 4, ♂.

1886. *Mutilla senex* Blake, Trans. Amer. Ent. Soc., **13**: 199, ♂.

1886. *Mutilla palliceps* Blake, Trans. Amer. Ent. Soc., **13**: 200, ♀.

1897. *Mutilla pallidiceps* Dalle Torre, Cat. Hymen., **8**: 70, ♀.

1897. *Mutilla senex* Dalle Torre, Cat. Hymen., 8: 85, ♂.
1898. *Mutilla senex* André, Ann. soc. ent. France, 67: 38, ♂, ♀.
1900. *Mutilla palliceps* Fox, Ent. News, 11: 401, ♀.
1903. *Mutilla senex* André, Gen. Ins., 1 (fasc. 11): 42, ♂.

Type: ♂, Cuba, in the Museum of Paris.

Type of *palliceps* in collection of American Entomological Society of Philadelphia.

Specimens examined:

2♂, 2♀, Soledad, Cuba, February 7, 1925 (George Salt); 14♂, Soledad, Cuba, February 16, 1925 (George Salt); 2♂, Soledad, Cuba, February 21, 1925 (George Salt); ♂, Soledad, Cuba, March 2, 1925 (George Salt); 2♂, Soledad, Cuba, March 4, 1925 (George Salt); ♀, Soledad, Cuba, June 1, 1925 (George Salt); ♀, Soledad, Cienfuegos, Cuba, October 24, 1926 (Darlington); 2♀, Soleland, Cienfuegos, Cuba. November 7, 1926 (Darlington).

Blake (1871) first suggested that *palliceps* was probably the female sex of *senex* Guérin. Later André (1898) united the two as sexes of the same species, although the evidence was not absolutely conclusive. In the material collected by Dr. Salt there is a male specimen and a female specimen pinned on the same pin, which apparently indicates that they were taken *in copula*. Since these are the only two members of the genus *Timulla* described from Cuba the evidence seems to justify the uniting of *palliceps* Cresson with *senex* Guérin as the two sexes of *senex*.

Genus *Ephuta* Say.

6. *Ephuta rubriceps* (Cresson).

1865. *Mutilla rubriceps* Cresson, Proc. Ent. Soc. Phila., 4: 111, ♀.
1871. *Mutilla rubriceps* Blake, Trans. Amer. Ent. Soc., 3: 257, ♀.

1886. *Sphærophthalma rubriceps* Blake, Trans. Amer. Ent. Soc., **13**: 216, ♀.

1897. *Mutilla rubriceps* Dalle Torre, Cat. Hymen., **8**: 79, ♀.

1900. *Mutilla rubriceps* Fox, Ent. News, **11**: 401, ♀.

1903. *Ephuta (Ephuta) rubriceps* André, Gen. Ins., **1** (fasc. 11): 63, ♀.

Type: ♀, Cuba, in Gundlach collection, Instituto de Segunda Ensenanza de la Habana, Obispo street, Havana, Cuba.

Known only from the type specimen. This species has always been placed with the group of species which now form the genus *Dasymutilla* Ashmead. It seems perfectly evident from Cresson's description of the first abdominal segment that it really belongs to the genus *Ephuta*. From the original description it appears to be very closely related to *cubensis* Blake.

7. *Ephuta cubensis* (Blake).

1871. *Mutilla cubensis* Blake, Trans. Amer. Ent. Soc., **3**: 231, ♀.

1886. *Mutilla cubensis* Blake, Trans. Amer. Ent. Soc., **13**: 202, ♀.

1897. *Mutilla cubensis* Dalle Torre, Cat. Hymen., **8**: 29, ♀.

1900. *Mutilla cubensis* Fox, Ent. News, **11**: 401, ♀.

1903. *Rhoptromutilla cubensis* André, Gen. Ins., **1** (fasc. 11): 44, ♀.

Type: ♀, Cuba, in collection of American Entomological Society of Philadelphia.

Known only from the type specimen.

8. *Ephuta festata* n. sp.

Female. Very dark ferruginous, deeply, foveately punctate;

head slightly wider than the thorax, clothed with dense, appressed, ochraceous pubescence; thorax subrectangular, bituberculate on each side; abdomen maculated with areas of appressed, black and ochraceous pubescence. Length, 9.5 mm.

Head ferruginous, densely clothed with appressed, ochraceous pubescence and sparse, erect, ochraceous hairs; mandibles ferruginous, black at the tips, edentate; clypeus very broadly and prominently elevated into a process medially, the ventral surface of the process strongly concave, densely punctured and clothed with erect, ochraceous pubescence; the dorsal surface of the process coarsely punctured, with sparse, erect, ochraceous pubescence, and medially elevated into a blunt tooth; scape, pedicel and first segment of flagellum ferruginous, the remainder of the flagellum darker; scape glabrous, with scattered punctures above; flagellar segments 3-9 planate beneath; antennal scrobes not carinate above; front and vertex with sparse, deep, distinct punctures, the intervals between the latter with fine, dense, shallow punctures; genæ with large, rather close very deep punctures, the intervals between the latter sculptured like the front, posterior margin of the genæ defined by a prominent crenulate carina which terminates at the postero-lateral angles; relative widths of head and thorax, 3.75-3.25.

Thorax subrectangular, ferruginous, the dorsum and pleura densely, foveately punctate, the punctures of the pleura larger and more separated than those of the dorsum; dorsum of thorax and posterior face of propodeum clothed with sparse, erect, black pubescence; mesopleura and metapleura and ventral margins of propodeum clothed with appressed, ochraceous pubescence; thorax tuberculate at the postero-lateral angles of the pronotum, and at the propodeal spiracles, the latter opening on the posterior surface of the tubercle.

Abdomen ferruginous; first segment quadrate, the antero-lateral angles dentate; first tergite with close, deep punctures, clothed with dense, appressed, ochraceous pubescence and sparse, erect, ochraceous hairs, the posterior margin with a small spot of black pubescence medially; second tergite, except broad apical margin, with deep foveate punctures, dense and confluent on the disk, larger and somewhat separated at the

base and sides, the intervals between the punctures feebly granulate; the broad apical margin depressed, with only scattered, large punctures; second tergite with a large, median, basal spot, and median, apical spot of dense, appressed black pubescence, the basal spot margined basally and laterally with dense, appressed, ochraceous pubescence, the apical spot broadly interrupting a broad apical band of dense, appressed ochraceous pubescence, the latter narrowed laterally and extended anteriorly along the lateral margins of the tergite to the anterior angles; basal half of third tergite densely foveately punctate, the apical half finely, shallowly punctate with scattered, large punctures; broad, lateral margins of third tergite with dense, appressed, ochraceous pubescence, the apical half of the tergite (except lateral margins) clothed with dense, appressed, black pubescence, narrowly interrupted medially with a line of dense, appressed, ochraceous pubescence; fourth tergite like the third, except the black band is broadly interrupted by a spot of dense, appressed, ochraceous pubescence; fifth tergite clothed entirely with dense, appressed, ochraceous pubescence, except for a pair of obscure, small, lateral spots of black, appressed pubescence; ultimate tergite densely punctured, clothed with rather dense, erect, ochraceous pubescence, pygidial area punctate and pubescent; first sternite with a prominent, median, longitudinal carina; second sternite with large, elongate, contiguous punctures; apical margins of sternites 3-5 densely punctate; apical margins of sternites 2-3 with a band of dense, appressed, ochraceous pubescence, the remainder of the venter clothed with sparse, erect, pale pubescence.

Legs ferruginous; femora beneath finely and closely punctured on the apical half and clothed with fine, appressed, pale pubescence; remainder of legs clothed with sparse, erect, pale pubescence; calcaria pale.

Holotype: ♀, Soledad, Cuba, May 6, 1925 (George Salt), in collection of Museum of Comparative Zoölogy, Cambridge, Mass.

Paratypes: ♀, Soledad, Cuba, April 26, 1925 (George Salt), in collection of University of Minnesota; ♀, Soledad, Cienfuegos, Cuba, November 9, 1926 (Darlington).

Related to *rubriceps* Cresson and *cubensis* Blake. *Festata* differs from *rubriceps* in having the thorax and legs ferruginous, and in the pubescent ornamentation of the thorax and abdomen; it differs from *cubensis* in the pubescent ornamentation of the abdomen.

9. *Ephuta furcillata* n. sp.

Male. Entirely black, coarsely punctured; head, prothorax, mesopleura, dorsum of propodeum, first abdominal tergite, apical margin of second tergite and apical margin of second sternite clothed with dense, appressed, silky white pubescence; scutellum prominently bifurcate; propodeum with a pair of tubercles at the antero-lateral angles and a pair of prominent teeth a short distance posterior to the tubercles; abdominal tergites 3-7 with a median, longitudinal carina; wings hyaline, the apical border very broadly fumose. Length, 8 mm.

Head black, clothed with dense, appressed, silky white pubescence; mandibles ferruginous, black at the tips, acute at the apex and with a single tooth within; clypeus with a pair of carinae originating just anterior of the antennal tubercles, parallel on the basal half, strongly diverging on the apical half, thus enclosing a space within the arms of a Y, the enclosed space glabrous, finely, sparsely punctate; remainder of clypeus densely clothed with appressed, silky white pubescence; scape slightly concave and bicarinate beneath, above finely and closely punctured; first segment of flagellum almost equal in length to the second; antennal scrobes carinate above; front and vertex with moderate, scattered punctures, the intervals between the punctures finely granulate; genae coarsely, deeply punctured, the posterior margin defined by a prominent, slightly crenulate carina; relative widths of head and thorax, 3-3.6.

Thorax black; pronotum and propleura densely, closely, foveately punctate, the propleura less so than the pronotum, the whole clothed with appressed and erect, silky white pubescence, not as dense as on the head; mesonotum glabrous, with sparse, large punctures, the anterior margin and the postero-lateral angles clothed with dense, appressed, silky white pubes-

cence, remainder of mesonotum almost bare; scutellum bifurcate, the teeth projecting posteriorly, coarsely punctate, the small antero-lateral areas clothed with dense, appressed, silky white pubescence; metanotum clothed with conspicuous, silky white pubescence; mesopleura coarsely, deeply punctate, clothed with dense, appressed, silky white pubescence; metapleura glabrous, sparsely clothed with pale pubescence; sides of propodeum glabrous with very large, distinct punctures, almost bare; dorsum of propodeum densely clothed with appressed, silky white pubescence, the postero-lateral angles produced into a prominent tooth, the antero-lateral angles with a small tubercle, on the posterior surface of which is the propodeal spiracle; posterior face of propodeum deeply reticulate, almost bare; tegulæ very large, conchatiform, punctured throughout with sparse, fine punctures, and clothed with very sparse, pale pubescence.

Abdomen black; first segment quadrate; first tergite with the antero-lateral angles strongly dentate, densely clothed with appressed, silky white pubescence; second tergite with large, elongate, more or less contiguous punctures, clothed with very sparse, erect, pale pubescence, except the apical margin with a broad band of dense, appressed, silky white pubescence; tergites 3-7 with a median, longitudinal carina, with sparse, moderate punctures, and clothed with sparse, erect, pale pubescence, except tergites 3 and 4 with a spot of dense, appressed, silky white pubescence at the lateral margins; first sternite with a median, longitudinal carina, the latter produced anteriorly into a prominent tooth; second sternite with large, close punctures, clothed with sparse, erect, pale pubescence, except the apical margin with a band of dense, appressed, silky white pubescence; sternites 3-7 with small, sparse punctures, and clothed with sparse, erect, pale pubescence.

Wings hyaline, except cell C+Sc₁ and the apex of the wing beyond cells 2nd R₁+R₂ and R₄, fumose; cell R₄ present; vein M₃+₄ received by cell R₅ about three-fifths the distance from the base to the apex; vein M₂ received by cell R₄ almost at the apex; veins r—m and R₅ widely separated on vein r.

Legs black, clothed with sparse, silky white pubescence; calcaria white.

Holotype: ♂, Soledad, Cuba, April 9, 1925 (J. G. Myers), in collection of Museum of Comparative Zoölogy, Cambridge, Mass.

Paratype: ♂, Soledad, Cuba, February 21, 1925 (George Salt), in collection of University of Minnesota.

This is the only male of this genus thus far described from the West Indies. It will probably prove to be the male of *festata*.

Mutillidæ described from the West Indies, exclusive of Cuba.

1. *Pseudomethoca flaviceps* André. Haiti.
Zeit. f. Hymen. u. Dipt., **6**: 72-74, ♀. 1906.
2. *Pseudomethoca uncinata* Ashmead. St. Vincent Islands.
Trans. Ent. Soc. London, **1900**: 239, ♀. ♂. 1900.
3. *Dasymutilla bowieri* André. San Domingo.
Ann. soc. ent. France, **67**: 51, ♀. 1898.
4. *Dasymutilla militaris* Smith. Jamaica.
Cat. Hymen. Brit. Mus., **3**: 61, ♀. 1855.
5. *Dasymutilla melancholica* Smith. San Domingo.
Descr. New Species of Hymen., **223**, ♀. 1879.
6. *Dasymutilla cargilli* Cockerell. Jamaica.
Psyche, **7** (suppl.): 16, ♀. 1895.

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